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Division of Forest Insect Investigations

FOREST INSECT CONDITIONS

HOOPA INDIAN RESERVATION
June 1953

Reconnaissance Survey

On June 2 and 3 a reconnaissance of forest insect damage on the Hoopa Indian Reservation was made by C. B. Eaton of the Forest Insect Laboratory, Berkeley. This survey was conducted in response to a request by Area Forester T. M. Holt of the Sacramento Area Office, Bureau of Indian Affairs. The request was occasioned by a report of barkbeetle infestations in pines on the Reservation from Resident Forester H. Courtney. The survey was made in company with Messrs. Courtney and Holt.

The Hoopa Indian Reservation is a forested tract about 12 miles square in the mountains of northeastern Humboldt County. It lies astride the Trinity River, between T7-10N and R3-6E, Humboldt Meridian, and adjoins on the south, east, and north (in part) the Six Rivers National Forest. Approximately 70,000 acres are timbered, predominantly with old growth, although cutting has been in progress in recent years and a portion of the forested area is cutover. The five commercial timber types common to the redwood-Douglas-fir subregion in which the Reservation is located are represented. These are (a) redwood, (b) Douglas-fir, (c) pine-Douglas-fir-fir, (d) fir, and (e) pine. The Douglas-fir type is by far the most widespread. An inventory of the timber stand and a forest management plan are in the process of being developed.

Insect and Host Species

Nearly all of the more common primary insect enemies of the commercially important tree species on the Reservation are present and were observed in the survey. Various life stages of the following insect species in their respective hosts were found:

Western pine beetle (Dendroctonus brevicomis Lec.)	Ponderosa pine
Mountain pine beetle (Dendroctonus monticolae Hopk.)	Ponderosa pine Sugar pine
California flatheaded borer (Melanophila californica Van D.)	Jeffrey pine

Douglas-fir beetle (Dendroctonus pseudotsugae Hopk.)	Douglas-fir
Flatheaded fir borer (Melanophila drummondi (Kby.))	Douglas-fir
Fir Engraver (Scolytus ventralis Lec.)	White fir

All insect species listed above, except the Douglas-fir beetle, occurred in infested standing trees which had been killed by the attacks. The Douglas-fir beetle was found in two trees that had been wind-thrown along road cuts, but no standing infested trees were seen. There was no evidence of the presence of coniferous defoliators such as the spruce budworm (Choristoneura fumiferana (Clem.)), nor was there evidence of the pine engravers, Ips spp.

Status and Scope of Infestation

The combined volume of all species of pine forms but a very small part of the total volume of timber on the Reservation. Such quantities of pine as are present are situated in small areas, generally on south slopes where site and moisture conditions preclude the development of heavy stands of fir. The flatheaded borer and pine barkbeetle-infested trees that are scattered through these sparse stands cannot be considered to constitute a serious threat to the total timber resource. The insects occur only in occasional trees, widely separated, which is more or less typical of a very light endemic infestation. While there is very little evidence of group killing in times past, there undoubtedly have been fluctuations in the intensity of insect damage in this area in the past, as there have been in the more typical pine forests to the east. The number of pine snags indicates that there has been a steady attrition of the green stand over the years, due presumably to bark beetles and flatheaded borers.

Losses in Douglas-fir are of very low magnitude. No active infestation of the Douglas-fir beetle in any but down trees was found. In areas where Douglas-fir had been logged recently, there was no evidence that this beetle had succeeded in breeding up in numbers in the cull material left in the woods. Only occasional standing trees were infested with the Douglas-fir flatheaded borer, and the level of activity of this insect can be considered normal.

Fir engraver infestations are at a very low level currently; only scattered trees were seen which contained active broods. There was abundant evidence, however, of the presence of this insect in previous years, and judging from the number of old group kills and topkilling in white fir, the fir engraver has been considerably more active formerly than at present.

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Discussion and Recommendations

Of the commercial tree species present on the Reservation, ponderosa, Jeffrey, and sugar pine are the ones most susceptible to insect attack, judging from past experience in this region. This fact does not preclude the possibility of serious losses in fir, such as have taken place in recent years in Oregon and to a lesser extent in Washington; but thus far there is no indication that such losses are about to develop in the stands in question. From the reconnaissance it appears that the pines constitute but a very small fraction of the total volume of timber present. It is evident, furthermore, that insect-caused losses in this portion of the resources are very low.

These two considerations, coupled with the minor nature of current insect damage in the Douglas-fir and white fir component of the stand, provide little basis for concern over the present loss picture. Barring an outbreak of the budworm in the fir (which is not anticipated), or the unforeseen occurrence of windthrown trees suitable as breeding material for the Douglas-fir beetle, the hazard of serious insect damage to Reservation timber is considered low.

Insofar as needs for direct control are concerned, present losses do not warrant the expenditure of time, effort, and money that would be necessary to locate and treat the small number of infested trees present. In developing and putting into effect a forest management plan for this unit, however, opportunities to take advantage of the benefits to be gained by indirect control should not be overlooked. Careful consideration should be given to priorities in cutting, and, other things being equal, the harvesting of the more susceptible pine timber should be given priority over the cutting of other species. The low volume in ponderosa and Jeffrey pine do not appear to warrant application of the principles of the California risk rating system to selectively cut these species so as to remove the high risk element of the stand. To a considerable extent, however, the use of this method of indirect control rests upon the feasibility of selling the low volumes of timber that would be removed.

Forest Insect Laboratory
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